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Brain and Language 85 (2003) 93–108

Brain
and
Language

www.elsevier.com/locate/b&l

Acute conduction aphasia: An analysis of 20 cases

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Accepted 9 August 2002

Abstract

In this study, the linguistic performance of 20 patients with acute conduction aphasia (CA) is described. CA presented as a relatively homogeneous aphasic syndrome characterized by a severe impairment of repetition and fluent expressive language functions with frequent phonemic paraphasias, repetitive self-corrections, word-finding difficulties, and paraphrasing. Language comprehension as assessed by tests of auditory and reading comprehension was only mildly impaired, whereas most patients performed poorly on the Token Test. Verbal-auditory short-term memory was reduced in all patients except one and seems to play a role in associated cognitive deficits, such as impaired syntactic comprehension or reduced mental arithmetics. A follow-up examination of 12 patients showed that CA often resulted in a chronic language deficit. Lesion locations were the posterior temporal and inferior parietal lobe.

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Keywords: Conduction aphasia; Short-term memory; Syntactic comprehension

1. Introduction

The syndrome of conduction aphasia (CA) is relatively rare among the aphasic population, and, compared to other aphasic syndromes, few studies have been performed on CA. CA, originally described by Wernicke (1874) and Lichtheim (1885) and further investigated by Goldstein (Goldstein, 1912; Köhler, Bartels, Herrmann, Dittmann, & Wallesch, 1998), is characterized by a disproportionate difficulty to repeat spoken language, in the absence of a severe language comprehension disorder. Spontaneous speech in CA is marked by word-finding difficulties and paraphasic substitutions (Caramazza, Basili, Koler, & Berndt, 1981; Rothi, McFarling, & Heilman, 1982; Benson et al., 1973; Goodglass, 1992). Patients are generally aware of their errors and produce repetitive self-corrections, known as *conduite d'approche*. A look at the literature shows that the clinical characteristics of

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CA have mostly been elaborated by way of single case reports. This lack of detailed investigations studying larger populations of CA patients limits our understanding of the syndrome and poses a difficulty for the diagnosis and differential diagnosis of CA. Although standard aphasia batteries including BDAE, WAB, and the Aachen Aphasia Test try to give criteria for identifying CA, the type of comprehension impairment in CA has never been defined in comparison to other aphasic syndromes. Furthermore, associated cognitive deficits regarding e.g., short-term memory functions, syntactic comprehension, or calculation were rarely studied. Moreover, most studies of CA report findings at one time point, whereas follow-up examinations of CA are rare. Kertesz and McCabe (1977) studied recovery patterns in aphasia and found that five out of eight patients with CA evolved to normal, whereas in three patients the syndrome changed to amnesic aphasia. Gandour, Marshall, Young Kim, and Neuburger (1991) presented a longitudinal study of a single case which improved in naming and reading but remained impaired in repetition. Overall, these data are not sufficient for a general prognosis of CA, and the percentage of patients who recover, or their recovery pattern is not clear. To learn more about the clinical spectrum of CA, its outcome, and its associated cognitive deficits, we performed a formal neurolinguistic assessment in 20 consecutive cases of CA. To further specify the role of short-term memory in CA, we tested several short-term memory functions, and we compared these results with those of a matched control group of patients with amnesic aphasia. In addition, follow-up data from the chronic phase of 12 CA patients were collected to learn about the outcome of acute CA.

2. Patients and methods

Twenty patients (8 females, 12 males, mean age 57.5 ± 16.9 , for demographic details see Table 1) were included in the study; all of them were inpatients from a

Table 1
Patients with CA

Patient initials	Age	Sex	Pathology	Evaluation time post-onset (days)
1 JE	31	m	IL left acm	10
2 KP	56	m	SAB from left acm aneurysm	30
3 TH	82	f	IL left acm	14
4 SH	70	m	IL left acm	7
5 GA	68	m	ICH left temporal	22
6 PJ	68	m	IL left acm	5
7 KA	52	m	IL left acm	5
8 SJ	55	m	IL left acm	5
9 KJ	43	m	IL left acm	5
10 VRH	44	f	IL left acm	8
11 HA	67	f	ICH left temporo-parietal	22
12 HM	83	f	IL left acm	7
13 FC	29	f	ICH left temporal	40
14 RS	51	f	IL left acm	17
15 SC	35	f	IL left acm	5
16 PW	64	m	IL left acm	15
17 HÖM	75	f	IL left acm	6
18 RG	64	m	IL left acm	8
19 DF	77	m	IL left acm	56
20 PS	36	m	IL left acm	5

f, female; m, male; IL, ischemic lesion; ICH, intracerebral hematoma; SAB, subarachnoidal hemorrhage; acm, middle cerebral artery.

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